(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 13 October 2005 (13.10.2005)

PCT

(10) International Publication Number WO 2005/096465 A1

(51) International Patent Classification⁷: 11/00, H02J 13/00, G05B 9/00

H02H 3/05,

(21) International Application Number:

PCT/AU2005/000458

(22) International Filing Date: 31 March 2005 (31.03.2005)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

2004901729

1 April 2004 (01.04.2004) AU

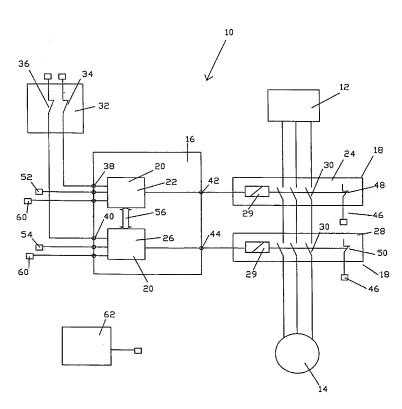
- (71) Applicant (for all designated States except US): SYSTEM CONSULT PTY LTD [AU/AU]; 2/2 Dayana Close, Midvale, Perth, Western Australia 6056 (AU).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): SCHNEIDER-HEINZE, Martin, Dietmar, Klaus [AU/AU]; 120 Cameron Road, Gidgeganup, Perth, Western Australia

6083 (AU). **SCHNEIDERHEINZE**, **Dirk**, **Henrik**, **Paul** [AU/AU]; 1125 Glen Forrest Drive, Glen Forrest, Perth, Western Australia 6071 (AU).

- (74) Agent: HOLLIDAY, Neal, Joseph; Lord and Company, 4 Douro Place, West Perth, Perth, Western Australia 6005 (AU).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

[Continued on next page]

(54) Title: SAFETY SWITCHING MODULE



(57) Abstract: A safety switching module (10) including at least two switch units connected in series and a switch control unit (20) for each switch unit (18). Each switch control unit (20) has a switch control input (38,40) to receive a shut down to open the respective switch unit (18). A switch monitoring means (46) is provided for each switch unit (18) to monitor whether the respective switch unit (18) is open or closed and is connected to the respective switch control unit (20) such that the switch control unit (20) can determine that a fault condition exists if the respective switch unit (18) has not opened on receiving the shut down signal. An operation control input (60) is provided on at least one of the switch control units (20) connectable to an operation controller (62) for controlling operation of the load. Each of the switch control units (20) is in communication with each other switch control units (20) to determine if fault conditions exist in any of the switch units (18). The switch control unit (20) connected to the operation controller (62) is arranged to open and close the respective switch unit (18) in response to signals received from the operation controller (62) unless any of the switch control units (20) have a fault condition or a have received the shut down

signal.

WO 2005/096465 A1



European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

with international search report